

CLAIMS:

1. A method for reducing or preventing adhesions in a patient comprising exposing tissue which has been subjected to tissue damage and is at risk for the formation of adhesions to a prepolymerized polymeric composition comprising chain extended, coupled or crosslinked poly(ester)/poly(oxyalkylene) ABA triblocks or AB diblocks, where A is a polyester unit and B is a polyoxyalkylene polymer unit, said polymeric composition having an EO/LA ratio falling within the range of about 0.1 to about 100.

2. The method according to claim 1 wherein said polyester unit is derived from the polymerization of monomers selected from the group consisting of lactic acid, lactide, glycolic acid, glycolide, β -propiolactone, ϵ -caprolactone, δ -glutarolactone, δ -valerolactone, β -butyrolactone, pivalolactone, α,α -diethylpropiolactone, ethylene carbonate, trimethylene carbonate, γ -butyrolactone, p-dioxanone, 1,4-dioxepan-2-one, 3-methyl-1,4-dioxane-2,5-dione, 3,3,-dimethyl-1-4-dioxane-2,5-dione, cyclic esters of α -hydroxybutyric acid, α -hydroxyvaleric acid, α -hydroxyisovaleric acid, α -hydroxycaproic acid, α -hydroxy- α -ethylbutyric acid, α -hydroxyisocaproic acid, α -hydroxy- α -methyl valeric acid, α -hydroxyheptanoic acid, α -hydroxystearic acid, α -hydroxylignoceric acid, salicylic acid and mixtures, thereof.

3. The method according to claim 1 wherein said polyester comprises poly(aliphatic hydroxy carboxylic acid).

4. The method according to claim 1 wherein said polyester comprises poly(aliphatic α -hydroxy carboxylic acid).

5. The method according to claim 1 wherein said polyester is obtained from polymerization of an aliphatic hydroxycarboxylic acid or ester selected from the group consisting of L-lactic acid, D,L-lactic acid, glycolic acid, L-lactide, D,L-lactide, glycolide or mixtures thereof.

6. The method according to claim 1 wherein said poly(oxyalkylene) polymer is comprised of poly(ethylene oxide).

7. The method according to claim 1 wherein said poly(oxyalkylene) polymer is comprised of a poly(ethylene oxide) homopolymer or poly(ethylene oxide)-co-poly(propylene oxide) block copolymer.

8. The method according to claim 1 wherein said polyester comprises units of an aliphatic hydroxycarboxylic acid or the corresponding cyclic dimeric ester selected from the group consisting of L-lactic acid, D,L-lactic acid, glycolic acid, L-lactide, D,L-lactide, glycolide or mixtures and said poly(oxyalkylene) polymer is comprised of a poly(ethylene oxide) homopolymer or poly(ethylene oxide)-co-poly(propylene oxide) block copolymers.

9. The method according to claim 5 wherein said A block is between about 1 and 400 carboxylic acid units in size and said B block is varies in size from about 100 Da to about 200,000 Da.

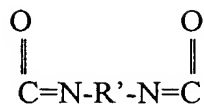
10. The method according to claim 7 wherein said A block comprises carboxylic acid units derived from L-lactide or D,L-lactide and said B block is comprised of poly(ethylene oxide).

11. The method according to claim 7 wherein said A block is approximately 6 to 30 carboxylic acid units in length and said B block is comprised of poly(ethylene oxide) having a molecular weight of between about 1,500 and 10,000 Da.

12. The method according to claim 1 wherein said composition is in the form of a preformed structure such as a film, rod, tube, bead, foam or ring or a dispersion, suspension, gel, liquid, spray or viscous solution.

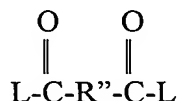
13. The method according to claim 1 wherein said composition further includes a bioactive agent.

14. The method according to claim 1 wherein said composition is chain extended or coupled with a diisocyanate of the general formula:



where R' is a C₂ to C₁₂ alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyl-diphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain.

15. The method according to claim 1 wherein said composition is chain extended or coupled with a compound of the general formula:



where R'' is a C₀ to C₁₂ alkylene group or a hydroxyl or carboxylic acid substituted alkylene group, alkene, a cycloalkyl, hydroxyl or carboxylic acid containing cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group or a polyoxyalkylene chain-containing group comprised of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide) or poly(ethylene oxide) rich chains and L is hydroxyl, a halide selected from Cl, I or Br or an ester group.

16. The method according to claim 15 wherein said poly(oxyalkylene) comprises poly(ethylene oxide).

17. The method according to claim 14 wherein said poly(oxyalkylene) comprises poly(ethylene oxide).

18. The method according to claim 1 wherein said composition comprises AB diblocks.

19. The method according to claim 18 wherein said AB diblock is end-capped with a non-reactive group.

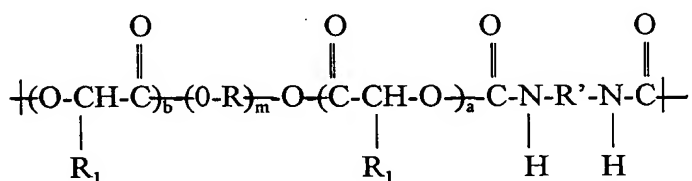
20. The method according to claim 19 wherein said unreactive group is selected from the group consisting of alkyl, aryl, aralkyl, a substituted alkyl, aryl, aralkyl and a protecting group.

21. The method according to claim 1 wherein said composition comprises ABA triblocks.

22. The method according to claim 1 wherein said composition is crosslinked.

23. The method according to claim 2 wherein said composition is crosslinked.

24. A method for reducing or preventing adhesions in a patient comprising exposing tissue which has been subjected to tissue damage and is at risk for the formation of adhesions to a polymeric composition comprising polymers of the chemical structure:



where m, a and b are positive integers,

R is an ethylene group and/or propylene group with the proviso that R is not exclusively a propylene group when R' contains an absence of poly(ethylene oxide), R' is a C₂ to C₁₂ alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyl-diphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene, or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain and R₁ is H or CH₃.

25. The method according to claim 24 wherein R₁ is CH₃.

26. The method according to claim 24 wherein m is 4 to about 5,000, R₁ is CH₃ and R is an ethylene group.

27. The method according to claim 24 wherein m is about 30 to about 230, R₁ is CH₃ and

R is an ethylene group.

28. The method according to claim 24 wherein R' is a C₆ alkylene group.

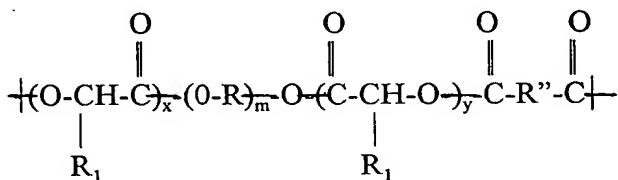
29. The method according to claim 24 wherein said composition is in the form of a preformed structure such as a film, rod, tube, bead, foam, ring or a viscous liquid, dispersion, suspension, viscous solution, spray or gel.

30. The method according to claim 24 wherein a and b are the same integer.

31. The method according to claim 24 wherein said polymêric composition includes a bioactive agent.

32. The method according to claim 24 wherein said poly(oxyalkylene) is poly(ethylene oxide).

33. A method for reducing or preventing adhesions in a patient comprising exposing tissue which has been subjected to tissue damage and is at risk for the formation of adhesions to a polymeric composition comprising polymers of the chemical structure:



where m, x and y are positive integers,

R is an ethylene or propylene group with the proviso that R is not exclusively a propylene group when R'' contains an absence of poly(ethylene oxide), R₁ is a hydrogen or methyl group, R'' is a C₀ to C₁₂ alkylene group or a hydroxyl or carboxylic acid substituted alkyl group, a cycloalkyl, a hydroxyl-containing cycloalkyl, or cycloalkyl-containing group, an aryl or aryl-containing group, or a polyoxyalkylene chain-containing group comprised of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide) or a poly(ethylene oxide) rich chain.

34. The method according to claim 33 wherein R_1 is CH_3 .

35. The method according to claim 33 wherein m is 4 to about 5,000, R_1 is CH_3 and R is an ethylene group.

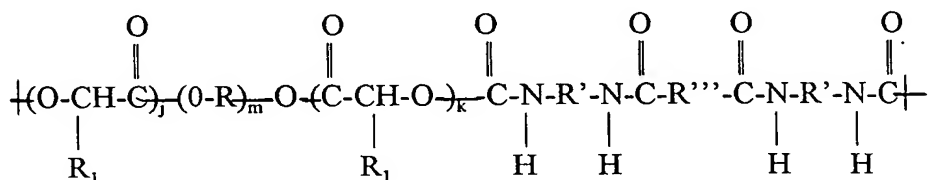
36. The method according to claim 33 wherein m is about 30 to about 230, R_1 is CH_3 and R is an ethylene group.

37. The method according to claim 33 wherein R' is a C_6 alkylene group.

38. The method according to claim 33 wherein said composition is in the form of a preformed structure such as a film, rod, tube, bead, foam or ring or a viscous liquid, gel, dispersion, suspension, spray or viscous solution.

39. The method according to claim 33 wherein said composition includes a bioactive agent.

40. A method for reducing or preventing adhesions in a patient comprising exposing tissue which has been subjected to tissue damage and is at risk for the formation of adhesions to a prepolymerized polymeric composition comprising polymers of the chemical structure:



where j , k and m are positive integers,

R is an ethylene or propylene group with the proviso that R is not exclusively a propylene group when R' and R''' contain an absence of poly(ethylene oxide), R' is a C_2 to C_{12} alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyl-

diphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene, or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain, R''' is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, a dicarboxylic acid and an ABA triblock wherein A is a polyester unit and B is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, and a dicarboxylic acid and R₁ is H or CH₃, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

41. The method according to claim 40 wherein said diol is selected from the group consisting of ethylene glycol, butanediol, OH-terminated polycaprolactone, poly(propylene glycol), OH-terminated polyester or oligoesters, tartaric acid, said diamine is selected from the group consisting of ethylene diamine, hexamethylene diamine, amino acids, and oligopeptides and said dicarboxylic acid is selected from the group consisting of succinic acid, sebacic acid, adipic acid, malic acid, oxalic acid, maleic acid, fumaric acid, COOH-terminated polycaprolactone, and COOH-terminated polyesters or oligoesters.

42. The method according to claim 40 wherein R₁ is CH₃.

43. The method according to claim 40 wherein m is 4 to about 5,000, R₁ is CH₃ and R is an ethylene group.

44. The method according to claim 40 wherein m is about 30 to about 230, R₁ is CH₃ and R is an ethylene group.

45. The method according to claim 40 wherein R' is a C₆ alkylene group.

46. The method according to claim 40 wherein said composition is in the form of a preformed structure such as a film, rod, tube, bead, foam or ring or a viscous liquid, dispersion, suspension, viscous solution, spray or gel.

47. The method according to claim 40 wherein a and b are the same integer.
48. The method according to claim 40 wherein said polymeric composition includes a bioactive agent.
49. The method according to claim 40 where R''' is poly(ethylene oxide) and has a molecular weight ranging from about 200 Da to about 10,000 Da.
50. The method according to claim 40 wherein R' is a C₂ to C₈ alkylene group.
51. A method for reducing or preventing adhesions in a patient comprising exposing tissue which has been subjected to tissue damage and is at risk for the formation of adhesions to a prepolymerized polymeric composition comprising chain extended, coupled or crosslinked ABA triblocks or AB diblocks, where A is an aliphatic polyester and B is a compound selected from the group consisting of a diol, a diamine and a dicarboxylic acid, wherein said ABA triblock or AB diblock is chain extended, coupled or crosslinked with an amount of at least one compound comprising poly(ethylene oxide) effective to provide an EO/LA ratio of said polymeric composition which falls within the range of about 0.1 to about 100.
52. The method according to claim 51 wherein said diol is selected from the group consisting of ethylene glycol, butanediol, OH-terminated polycaprolactone, poly(propylene glycol), OH-terminated polyester or oligoesters, tartaric acid, said diamine is selected from the group consisting of ethylene diamine, hexamethylene diamine, amino acids, and oligopeptides and said dicarboxylic acid is selected from the group consisting of succinic acid, sebacic acid, adipic acid, malic acid, oxalic acid, maleic acid, fumaric acid, COOH-terminated polycaprolactone, and COOH-terminated polyesters or oligoesters.
53. The method according to claim 51 wherein said polyester is derived from the polymerization of monomers selected from the group consisting of lactic acid, lactide, glycolic acid, glycolide, β -propiolactone, ϵ -caprolactone, δ -glutarolactone, δ -valerolactone, β -butyrolactone, pivalolactone, α,α -diethylpropiolactone, ethylene carbonate, trimethylene

carbonate, γ -butyrolactone, p-dioxanone, 1,4-dioxepan-2-one, 3-methyl-1,4-dioxane-2,5-dione, 3,3-dimethyl-1,4-dioxane-2,5-dione, cyclic esters of α -hydroxybutyric acid, α -hydroxyvaleric acid, α -hydroxyisovaleric acid, α -hydroxycaproic acid, α -hydroxy- α -ethylbutyric acid, α -hydroxyisocaproic acid, α -hydroxy- α -methyl valeric acid, α -hydroxyheptanoic acid, α -hydroxystearic acid, α -hydroxylignoceric acid, salicylic acid and mixtures, thereof.

54. The method according to claim 51 wherein said polyester comprises poly(aliphatic hydroxy carboxylic acid).

55. The method according to claim 51 wherein said polyester comprises poly(aliphatic α -hydroxy carboxylic acid).

56. The method according to claim 51 wherein said polyester is obtained from polymerization of an aliphatic hydroxycarboxylic acid or ester selected from the group consisting of L-lactic acid, D,L-lactic acid, glycolic acid, L-lactide, D,L-lactide, glycolide or mixtures thereof.

57. The method according to claim 51 wherein said A block is between about 1 and 400 carboxylic acid units in size and said B block is varies in size from about 100 Da to about 200,000 Da.

58. The method according to claim 51 wherein said A block comprises carboxylic acid units derived from L-lactide or D,L-lactide and said B block is comprised of a diol.

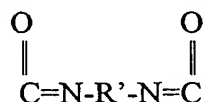
59. The method according to claim 51 wherein said A block is approximately 6 to 30 carboxylic acid units in length and said B block is comprised of ethylene glycol or butane diol.

60. The method according to claim 51 wherein said composition is in the form of a preformed structure such as a film, rod, tube, bead, foam or ring or a dispersion, suspension, gel, liquid, spray or viscous solution.

61. The method according to claim 51 wherein said composition further includes a

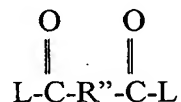
bioactive agent.

62. The method according to claim 51 wherein said composition is chain extended or coupled with a diisocyanate of the general formula:



where R' comprises a poly(oxyalkylene)-containing or poly(oxyethylene) rich chain.

63. The method according to claim 51 wherein said composition is chain extended or coupled with a compound of the general formula:



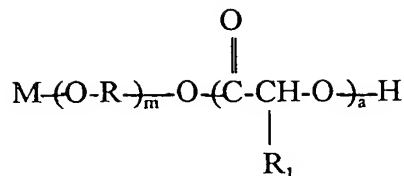
where R'' is a polyoxyalkylene chain comprised of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide) or is a poly(ethylene oxide) rich chain and L is hydroxyl, a halide selected from Cl, I or Br or an ester group.

64. The method according to claim 63 wherein R'' is poly(ethylene oxide).

65. The method according to claim 51 wherein said composition is crosslinked.

66. The method according to claim 51 wherein said composition is crosslinked.

67. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and a are positive integers,

R is an ethylene group or propylene group with the proviso that R is not exclusively a propylene group, M is a non-reactive group and R₁ is H or CH₃

said composition having an EO/LA ratio ranging from about 0.1 to about 100.

68. The composition according to claim 67 wherein R₁ is CH₃.

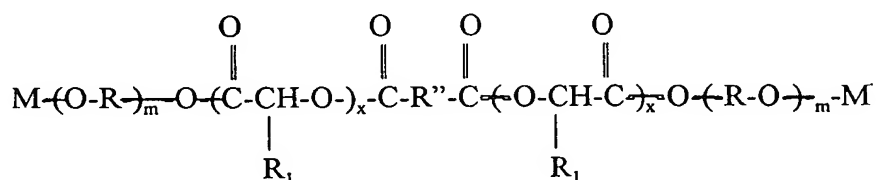
69. The composition according to claim 67 wherein said non-reactive group is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, aryl group, aralkyl group or a blocking group.

70. The composition according to claim 67 wherein m is 4 to about 5,000, R₁ is CH₃ and R is an ethylene group.

71. The composition according to claim 67 wherein m is about 30 to about 230, R₁ is CH₃ and R is an ethylene group.

72. The composition according to claim 67 wherein said polymeric composition includes a bioactive agent.

73. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



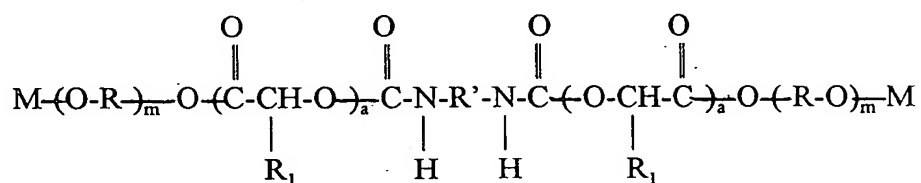
where m and x are positive integers,

R is an ethylene group or propylene group with the proviso that R is not exclusively a propylene group when R' contains an absence of poly(ethylene oxide), M is a non-reactive group, R'' is a C₀ to C₁₂ alkylene group or a hydroxyl or carboxylic acid substituted alkyl group, a cycloalkyl, a hydroxyl-containing cycloalkyl, or cycloalkyl-containing group, an aryl or aryl-containing group, or a polyoxyalkylene chain-containing group comprised of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide) or a poly(ethylene oxide) rich chain, R₁ is H or CH₃ and M is a non-reactive group, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

74. The composition according to claim 73 wherein said non-reactive group is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a blocking group.

75. The composition according to claim 73 where M is methyl or ethyl.

76. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and a are positive integers,

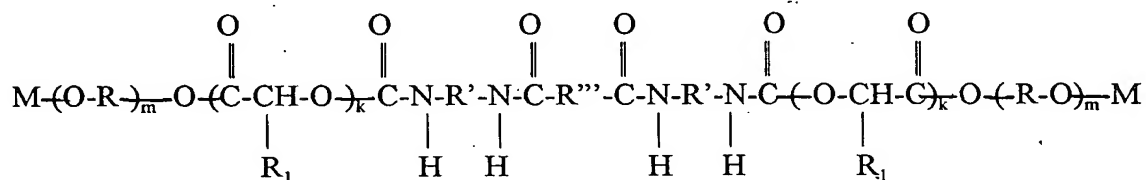
R is an ethylene group and/or propylene group with the proviso that R is not exclusively a propylene group when R' contains an absence of poly(ethylene oxide), M is a non-reactive group, R' is a C₂ to C₁₂ alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyl-diphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain and R₁ is H or CH₃, said polymeric composition

having an EO/LA ratio which falls within the range of about 0.1 to about 100.

77. The composition according to claim 66 wherein said non-reactive group is a C_1 to C_{12} alkyl group, an aryl group, an aralkyl group or a substituted C_1 to C_{12} alkyl group, an aryl group, an aralkyl group or a blocking group.

78. The composition according to claim 67 where M is methyl or ethyl.

79. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and k are positive integers,

R is an ethylene or propylene group with the proviso that R is not exclusively a propylene group when R' and R''' contain an absence of poly(ethylene oxide), R' is a C_2 to C_{12} alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyldiphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain,

R''' is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, a dicarboxylic acid or an ABA triblock, wherein A is a polyester unit and B is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, and a dicarboxylic acid, R_1 is H or CH_3 and M is a non-reactive group, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

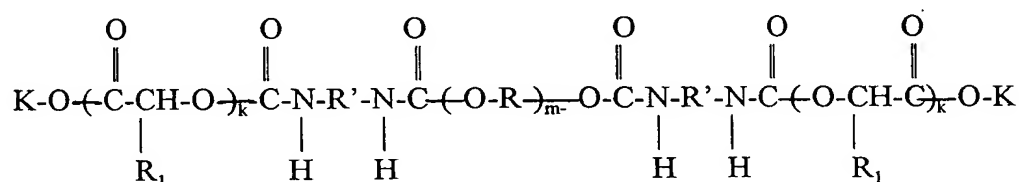
80. The method according to claim 79 wherein said diol is selected from the group consisting of ethylene glycol, butanediol, OH-terminated polycaprolactone, poly(propylene glycol), OH-terminated polyester or oligoesters, tartaric acid, said diamine is selected from the

group consisting of ethylene diamine, hexamethylene diamine, amino acids, and oligopeptides and said dicarboxylic acid is selected from the group consisting of succinic acid, sebacic acid, adipic acid, malic acid, oxalic acid, maleic acid, fumaric acid, COOH-terminated polycaprolactone, and COOH-terminated polyesters or oligoesters.

81. The composition according to claim 79 wherein said non-reactive group is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a blocking group.

82. The composition according to claim 79 where M is methyl or ethyl.

83. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and k are positive integers,

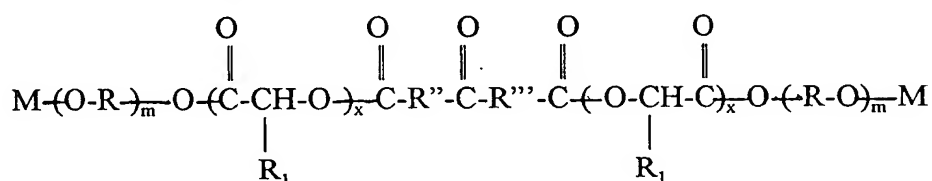
R is an ethylene or propylene group with the proviso that R is not exclusively ethylene where R' contains an absence of poly(ethylene oxide), R' is a C₂ to C₁₂ alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyldiphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain and K is any group derived from a compound which is unable to initiate ring opening polymerization of a starting lactone, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

84. The composition according to claim 83 wherein K is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group, a

C=C- containing group .

85. The composition according to claim 83 where K is methyl or ethyl.

86. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and x are positive integers,

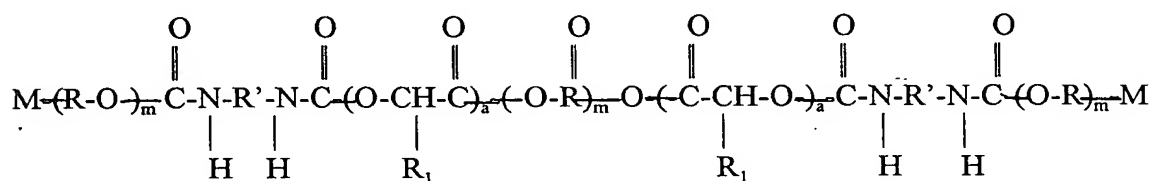
R is an ethylene or propylene group with the proviso that R is not exclusively a propylene group when R'' and R''' contain an absence of poly(ethylene oxide), R₁ is a hydrogen or methyl group, R'' is a C₀ to C₁₂ alkylene group or a hydroxyl or carboxylic acid substituted alkyl group, a cycloalkyl, a hydroxyl-containing cycloalkyl, or cycloalkyl-containing group, an aryl or aryl-containing group, or a polyoxyalkylene chain-containing group comprised of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide) or a poly(ethylene oxide) rich chain, R''' is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, a dicarboxylic acid and an ABA triblock, wherein A is a polyester unit and B is selected from the group consisting of poly(ethylene oxide), poly(ethylene oxide)-co-poly(propylene oxide), a poly(ethylene oxide)-rich chain, a diol, a diamine, and a dicarboxylic acid, R₁ is H or CH₃ and M is a non-reactive group, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

87. The method according to claim 86 wherein said diol is selected from the group consisting of ethylene glycol, butanediol, OH-terminated polycaprolactone, poly(propylene glycol), OH-terminated polyester or oligoesters, tartaric acid, said diamine is selected from the group consisting of ethylene diamine, hexamethylene diamine, amino acids, and oligopeptides and said dicarboxylic acid is selected from the group consisting of succinic acid, sebacic acid, adipic acid, malic acid, oxalic acid, maleic acid, fumaric acid, COOH-terminated polycaprolactone, and COOH-terminated polyesters or oligoesters.

88. The composition according to claim 86 wherein said non-reactive group is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a blocking group.

89. The composition according to claim 86 where M is methyl or ethyl.

90. A composition for use in reducing or preventing adhesions in a patient comprising a polymer of the chemical structure:



where m and a are positive integers,

R is an ethylene group and/or propylene group with the proviso that R is not exclusively a propylene group when R' contains an absence of poly(ethylene oxide), M is a non-reactive group, R' is a C₂ to C₁₂ alkylene group, a cycloalkyl or cycloalkyl-containing group, an aryl or aryl-containing group, 4,4'-diphenylmethane, toluene, naphthalene, 4,4'-dicyclohexylmethane, cyclohexyl, 3,3'-dimethylphenyl, 3,3'-dimethyl-diphenylmethane, 4,6'-xylylene, 3,5,5-trimethylcyclohexyl, 2,2,4-trimethylhexamethylene, p-phenylene or a poly(ethylene oxide) containing or poly(ethylene oxide) rich chain, M is a non-reactive group, R₁ is H or CH₃, said polymeric composition having an EO/LA ratio which falls within the range of about 0.1 to about 100.

91. The composition according to claim 90 wherein said non-reactive group is a C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a substituted C₁ to C₁₂ alkyl group, an aryl group, an aralkyl group or a blocking group.

92. The composition according to claim 91 where M is methyl or ethyl.